

CUSTOMER NO.: 24498  
Serial No. 10/584,686  
Office Action dated: 4/13/10  
Reply dated: 07/09/10

PATENT  
PD040005

JUL 12 2010

### **REMARKS/ARGUMENTS**

In the Office Action, the Examiner noted that claims 1-9, 12 and 14 are pending in the application and that claims 1-9, 12 and 14 stand rejected. The Applicants' claims 1, 12 and 14 are amended by this response to correct informalities pointed out by the Examiner.

In view of the following discussion, the Applicants respectfully submit that none of these claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102 or rendered obvious under the provisions of 35 U.S.C. §103. Thus, the Applicants respectfully submit that all of these claims are now in allowable form.

### **Objections**

The Examiner objected to the Applicants' claims 1, 12 and 14 for various informalities.

In response, the Applicants have amended claims 1, 12 and 14 herein, as suggested by the Examiner, to correct for informalities pointed out by the Examiner.

### **Rejections**

#### **A. 35 U.S.C. §102**

The Examiner rejected the Applicants' claims 1-5, 8-9, 12 and 14 under 35 U.S.C. §102(b) as being anticipated by Tsuchiya et al. (Japan H01-253638, hereinafter "Tsuchiya"). The rejection is respectfully traversed.

The Applicants submit that Tsuchiya absolutely fails to teach, suggest or anticipate each and every element of the Applicants' invention, as recited in at least the Applicants' claim 1.

The Applicants submit that Tsuchiya discloses an apparatus for improving reliability. If a detected defect exceeds a reference value WC, the error is stored using a defect position information. In Tsuchiya, a jump is made to the next track and reading is repeated. On page 9, paragraph 2 of Tsuchiya, it is stated that, "a jump to the next inspection track is executed". The Applicants submit, however, that Tsuchiya does not disclose or suggest that a scan is made **perpendicular** to the track direction, as taught and claimed by the Applicants. A person skilled in the art

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would, without any contrary hint given in the document, expect that the jump is executed along the track until the next inspection track is reached, because this is the natural direction of motion of the optical head, and the next inspection track can be reached reliably.

In Tsuchiya, Figure 3 is described on page 5, paragraph 2 of the description, where it is erroneously numbered as Figure 5. On page 5, paragraph 2 of Tsuchiya, it is taught that a pulse is outputted, which is proportional to the defect length in track direction. The tracks and their direction are indicated by the horizontal lines in Figure 3. As long as the signal from the optical head is over a certain threshold value, while the optical head is scanning over a defect region, a pulse is emitted (second signal of Figure 3) indicating a defect. In the invention of Tsuchiya, the first and second signal of Figure 3 can only be generated if the optical head moves over the defect **in track direction**. Thus, the Applicants submit that Tsuchiya teaches away from making a scan over the abnormal region **perpendicular to the track direction**, as taught and claimed by Applicants in at least the Applicants' independent claims and specifically claim 1.

In the Applicants' invention, making a scan over the defective region **perpendicular** to the track direction has the advantage that a valid track is found quickly without scanning the entire invalid tracks. Further, in case a track is mirrored, the track guidance often cannot be maintained and the track is lost during readout. Using a method as taught and claimed by Applicants, a scan is made perpendicular to the erroneous track until a valid track region is found and guidance on this track can be maintained.

In addition, the Applicants submit that in Tsuchiya, the defect positional information is determined and stored in the defect information recording unit (28). The radial extension of the abnormal region is not explicitly determined in Tsuchiya as in the invention of the Applicants. There is in fact no need to determine the radial extension of a defect, because this information is not necessary for making a decision if there is a defect on a disc or not. As stated on page 6, paragraph 3, the object of the invention is just to make the decision if there is a grave defect on an optical disc and to do that more reliable than the prior art did and within a short

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inspection period. Figure 3 just shows a defect having a radial extension and an extension in movement direction as an example.

Further, in contrast to the teachings of Tsuchiya, in the invention of the Applicants, a scan is made and information on the type of abnormal region is obtained during the scan by evaluating a track crossing signal. In Tsuchiya, no hint is given that the track crossing signal is evaluated during the jump and information of the type of abnormal region is achieved. In Tsuchiya, just the defect signal shown in Figure 3 is achieved. In contrast to the invention of Applicants, in Tsuchiya, as stated on page 7, paragraph 2, the jump is made to get to a new position on the disc and afterwards a re-inspection of the anterior and posterior tracks is started. Thus, during the jump itself, not enough information is available to reliably make a decision about the type of defect. This is also supported by the fact that the object of the invention of Tsuchiya is to find the positional information of the defect, "by recording said positional information in a defect information recording unit (28)". (See Tsuchiya, page 8, paragraph 2). The Applicants submit that there is no hint in Tsuchiya that the character of the defect is recorded in the defect information recording unit (28). Thus, there is no need to obtain any information on the type of defect during the jump, and a person skilled in the art would not read out any information about the type of abnormal region, as taught and claimed by Applicants without applying an inventive step.

As such, and for at least the reasons recited above, the Applicants submit that Tsuchiya does not disclose or anticipate each and every element of Applicants claims, as required for anticipation and specifically fails to teach or anticipate that information on the type of abnormal region during a scan perpendicular to the track direction can be obtained by evaluating a track crossing signal, as taught and claimed by Applicants. The Applicants further submit that Tsuchiya does not determine the radial extension of an abnormal region, as taught and claimed by Applicants.

Therefore, Applicants submit that, for at least the reasons recited above, the Applicants' claim 1 is not anticipated by Tsuchiya. As such, Applicants respectfully submit that Applicants' claim 1 fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder.

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Furthermore, dependent claims 2-7, 9, 12 and 14 depend either directly or indirectly from independent claim 1 and recite additional features therefor. As such, and for at least the reasons set forth herein, the Applicants submit that dependent claims 2-7, 9, 12 and 14 are also not anticipated by the teachings of Tsuchiya. Therefore, Applicants submit that dependent claims 2-7, 9, 12 and 14 also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

The Applicants reserve the right to establish the patentability of each of the claims individually in subsequent prosecution.

#### **B. 35 U.S.C. § 103**

The Examiner rejected Applicants' claim 6 and 7 under 35 U.S.C. §103(a), as being unpatentable over Tsuchiya, as applied to claim 1, above and further in view of Shimote et al. (US 5,212,677, hereinafter "Shimote"). The rejection is respectfully traversed.

The Examiner applied Tsuchiya to Applicants' claims 6 and 7, as applied for the rejection of the Applicants' claim 1. As described above, Tsuchiya absolutely fails to teach or anticipate at least Applicants' claim 1. As such, and at least because Tsuchiya fails to teach or anticipate the Applicants' claim 1, Applicants further submit that Tsuchiya also fails to teach or anticipate Applicants' claims 6 and 7, which depend indirectly from the Applicants' claim 1.

Even further, Applicants submit that the teachings of Shimote absolutely fail to bridge the substantial gap between the teachings of Tsuchiya and the Applicants' invention, at least with respect to the Applicants' claims 1 and 6-7. That is, the Applicants submit that Shimote absolutely fails to teach, suggest or render obvious at least a method for analyzing an abnormal region on an optical recording medium including that information on the type of abnormal region during a scan perpendicular to the track direction can be obtained by evaluating a track crossing signal, as taught and claimed by Applicants and determining the radial extension of an abnormal region, as taught and claimed by Applicants in at least the Applicants' independent claim 1.

More specifically, Applicants submit that Shimote discloses an apparatus which inspects disc-shaped information recording media. The disc shape

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information medium has one kind of defect, as shown in Fig. 1. These are burst defects 52a, 52b covering one or multiple tracks. In the example, five tracks are covered by burst defect 52a, and two tracks are covered by burst defect 52b. Shimote discloses only two different kinds of defects, which are physical defects and data defects. In Shimote, the apparatus detects the type of defect and classifies the defects into defect clusters by the defect position in the radial and circumferential directions. The Applicants submit, however, that Shimote does not disclose nor gives a hint to make a scan over the abnormal region **perpendicular** to the track direction. This feature has the advantage that a valid track is found soon without scanning the entire invalid tracks. Further, in case a track is mirrored, the track guidance often cannot be maintained, and the track is lost during readout. Using a method according to the invention, a scan is made perpendicular to the erroneous track until a valid track region is found, and guidance on this track can be maintained. Further, Shimote does not disclose obtaining information on the type of abnormal region during the scan by evaluating a track crossing signal, as no track crossing is performed in Shimote's disclosure.

Therefore, the Applicants submit that for at least the reasons recited above, the Applicants' independent claim 1 is not rendered obvious by the teachings of Shimote and Tsuchiya, alone or in any allowable combination, and, as such, fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder. As such and at least because the teachings of Shimote and Tsuchiya, alone or in any allowable combination, fail to render obvious the invention of the Applicants' claim 1, the Applicants further submit that dependent claims 6 and 7, which depend indirectly from the Applicants' claim 1, are also not rendered obvious by the teachings of Shimote and Tsuchiya, alone or in any allowable combination, and, as such, fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

The Applicants reserve the right to establish the patentability of each of the claims individually in subsequent prosecution.

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**Conclusion**

The Applicants would like to respectfully point out to the Examiner that the Tsuchiya reference was cited in the prosecution of the Applicants' corresponding Japanese Patent Application No. 2006-548131, now granted as Japanese Patent No. 4341677, and the Tsuchiya reference was not considered relevant by the Japanese Examiner with regard to claim scope of the Applicants' invention.

Thus and for at least the reasons recited above, the Applicants submit that none of the claims, presently in the application, are anticipated under the provisions of 35 U.S.C. §102 or rendered obvious under the provisions of 35 U.S.C. §103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion, it is respectfully requested that the Examiner telephone the undersigned.

Please charge any unpaid, additional fees to Deposit Account No. 07-0832.

Respectfully submitted,

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